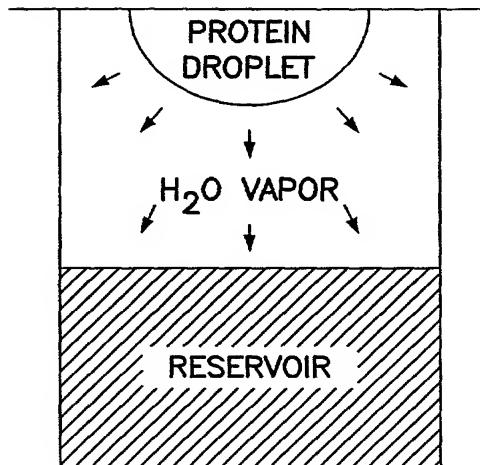
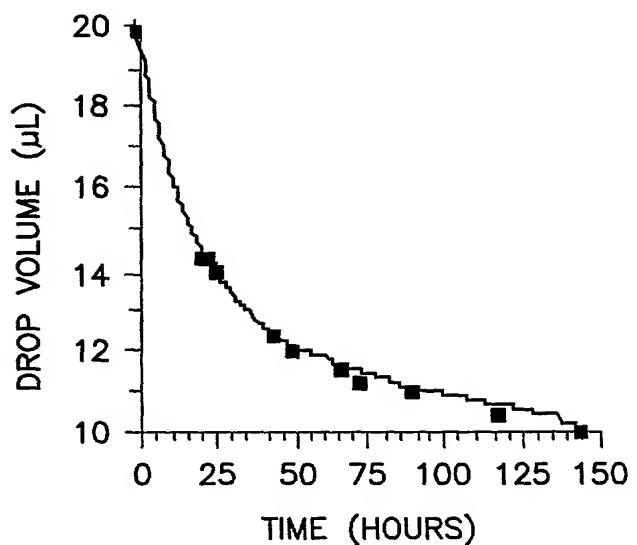


FIG. 1



LINBRO BOX HANGING DROP VAPOR DIFFUSION CHAMBER.

FIG. 2



DROP VOLUME VERSUS TIME FOR A TYPICAL VAPOR DIFFUSION
EXPERIMENT IN A LINBRO BOX.

N₂-VAPOR DIFFUSION INDUCED CRYSTALLIZATION
BLOCK DIAGRAM FOR DC/PCG

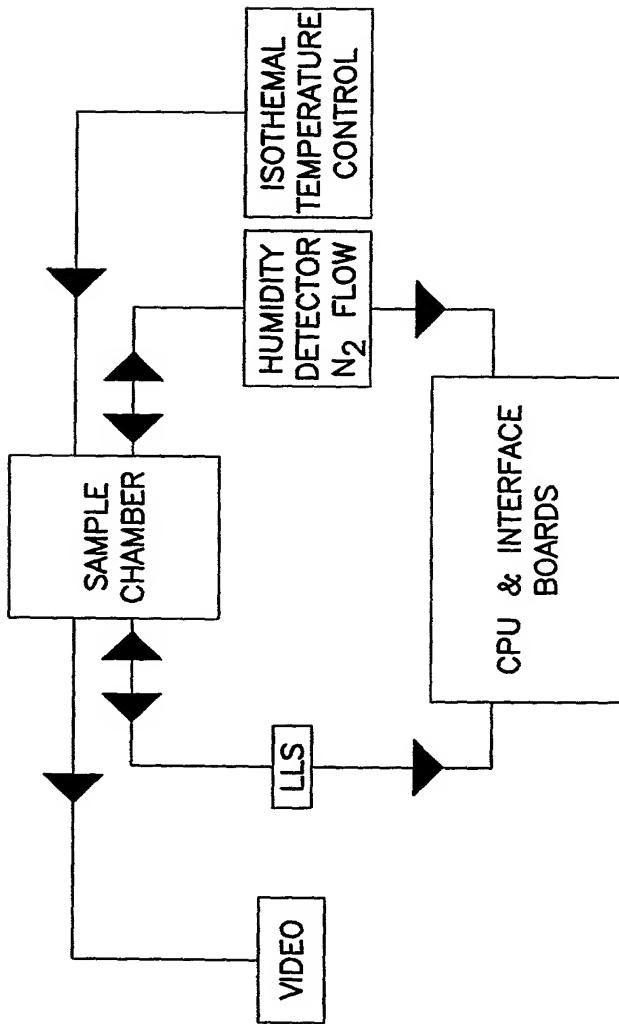


FIG. 3

FIG. 4

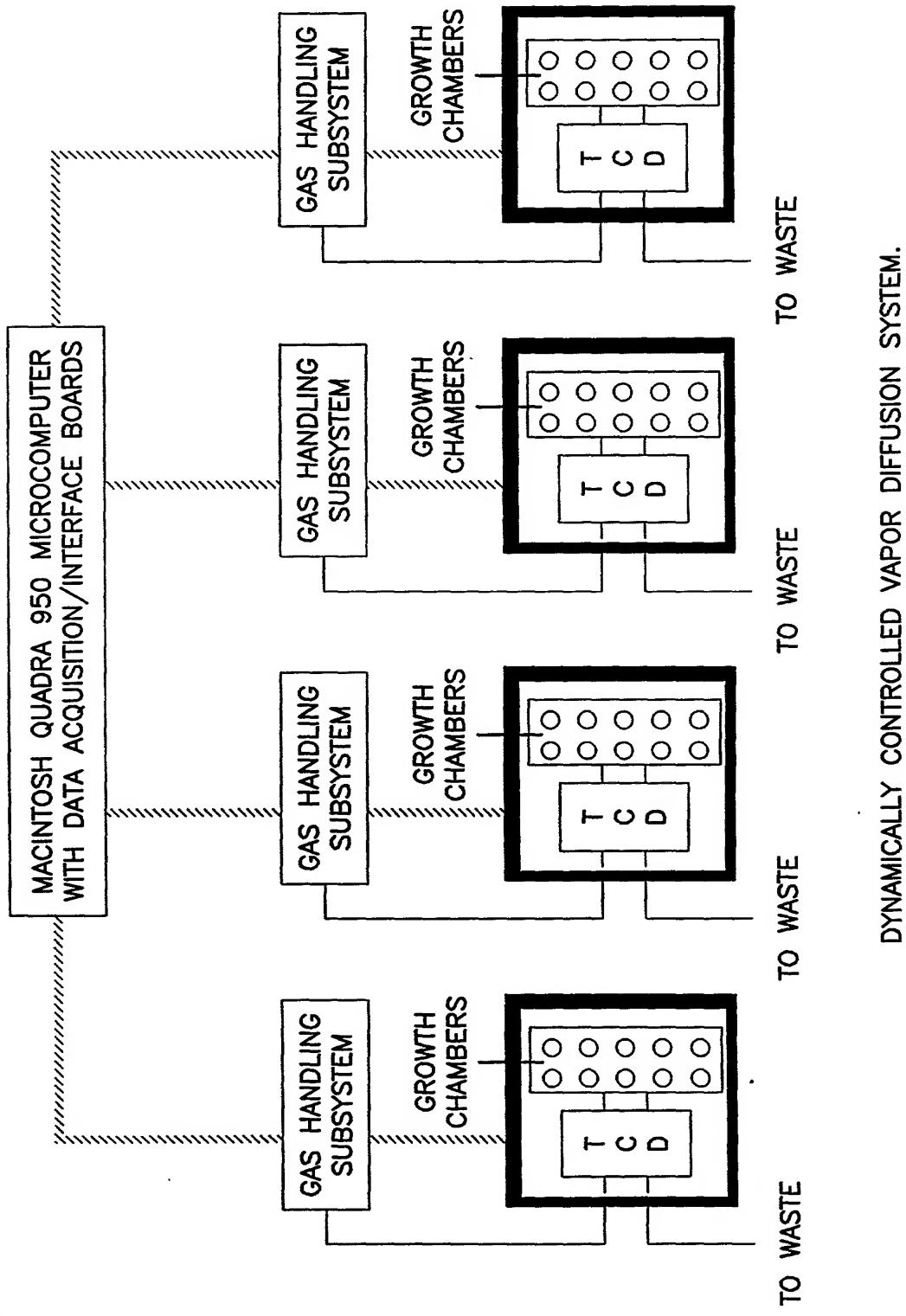


FIG. 5

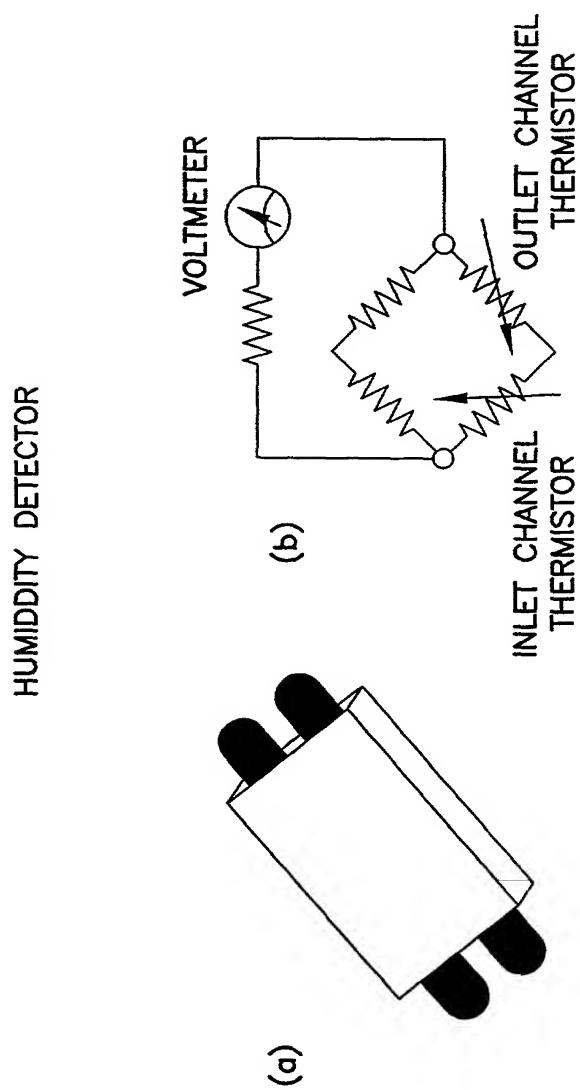


FIG. 6

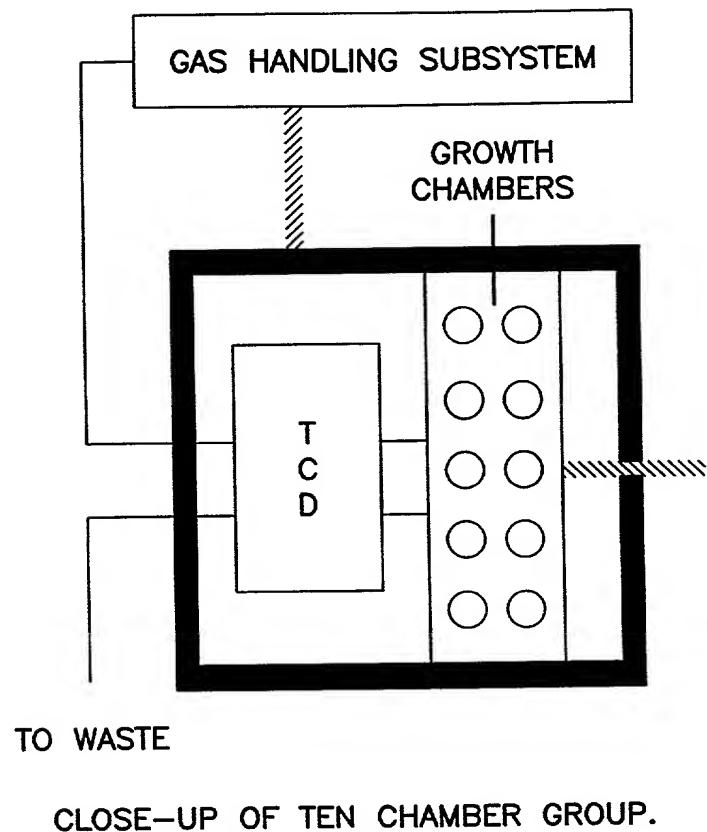


FIG. 7

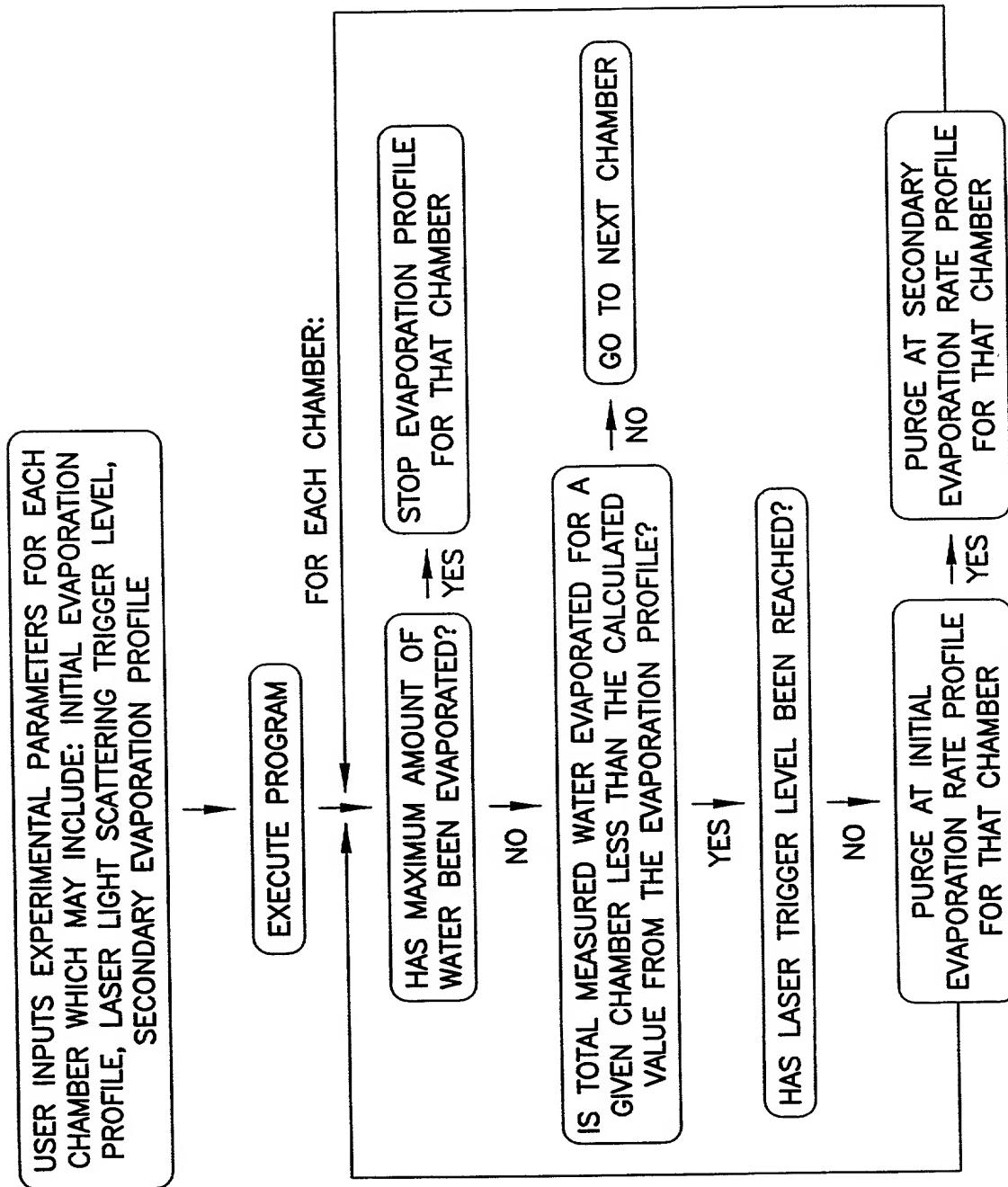
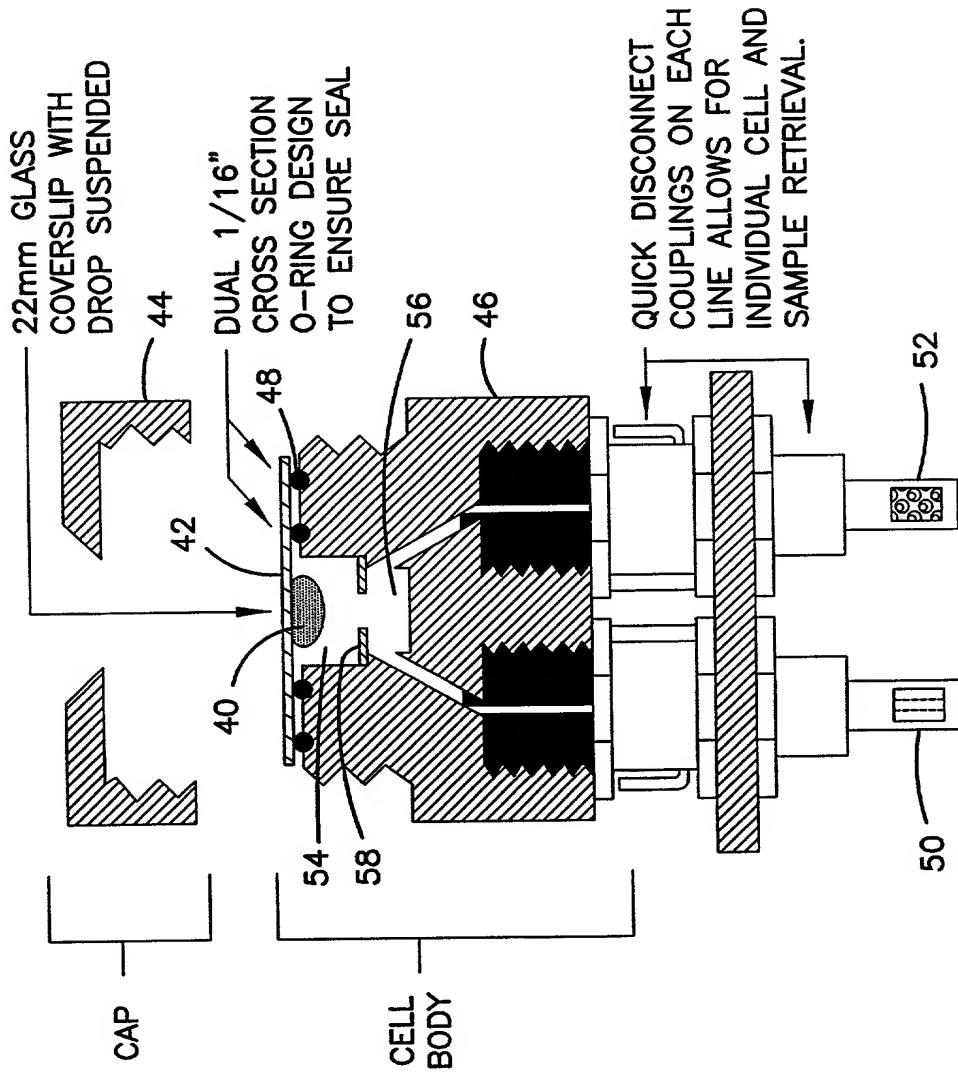


FIG. 8

EXPANDED VIEW SAMPLE CHAMBER



SIZE AND NUMBER OF MACROCRYSTALS OBTAINED FROM LINEAR EVAPORATION
PROFILES WITH LINBRO CONTROLS

FIG. 9(a)

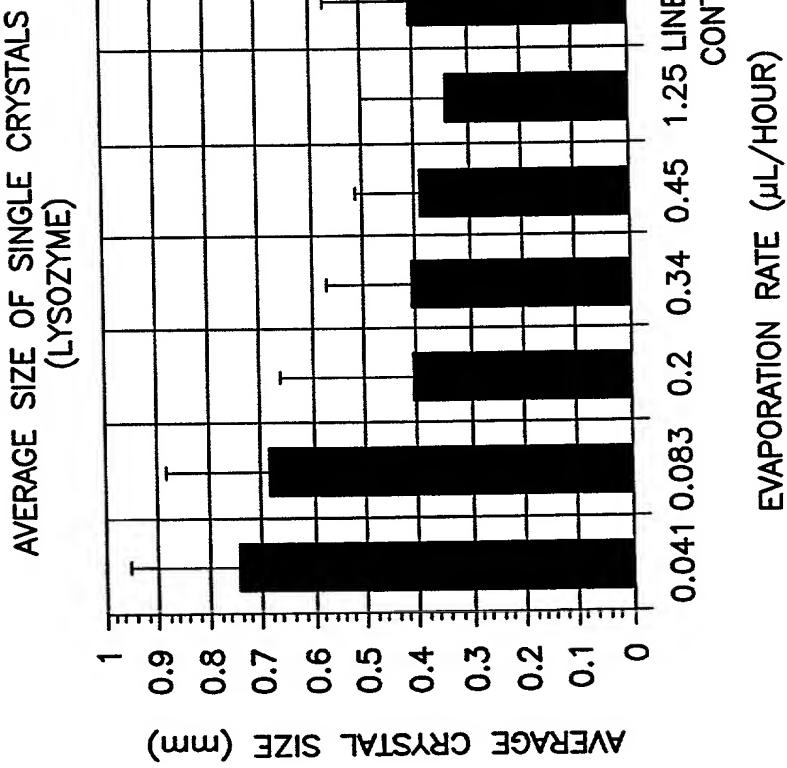
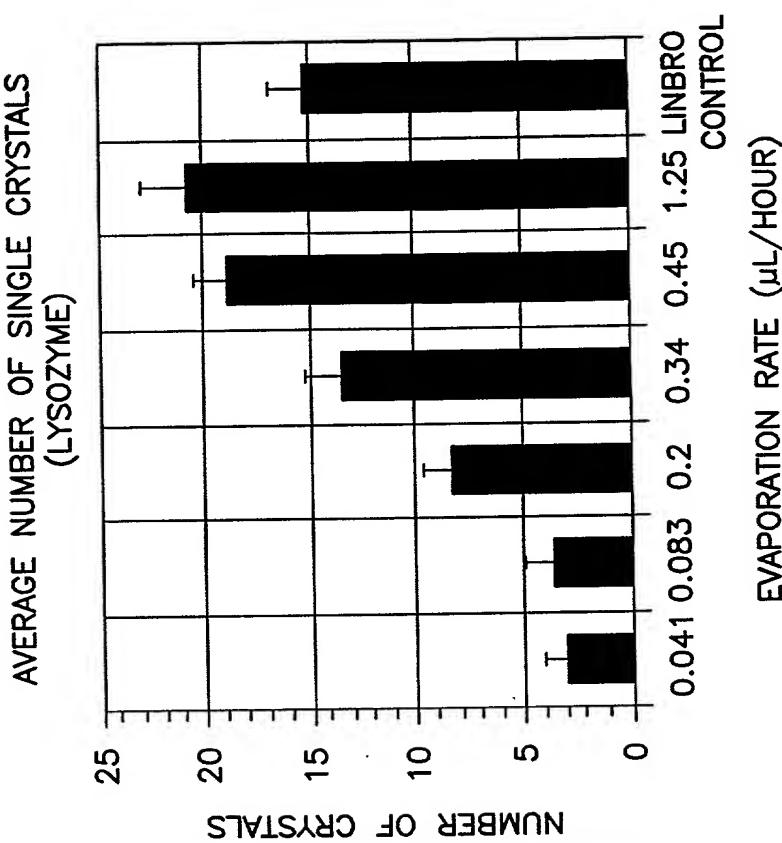


FIG. 9(b)



NOTE: CRYSTAL MEASUREMENTS WERE RECORDED FOR EACH PROFILE
AFTER REACHING IDENTICAL FINAL DROP VOLUMES

SIZE AND NUMBER OF MACROCRYSTALS OBTAINED FROM LINEAR EVAPORATION PROFILES WITH LINBRO CONTROLS.

FIG. 10(a)

AVERAGE SIZE OF SINGLE CRYSTALS
(THAUMATIN)

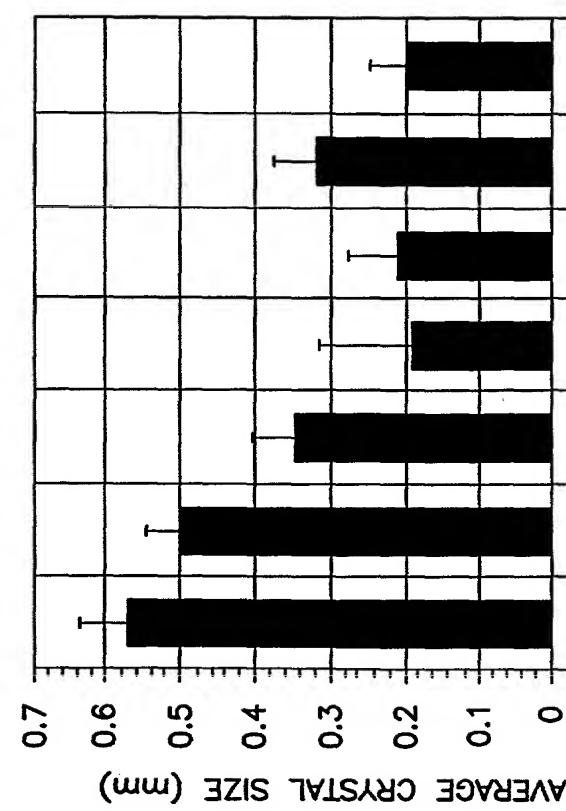
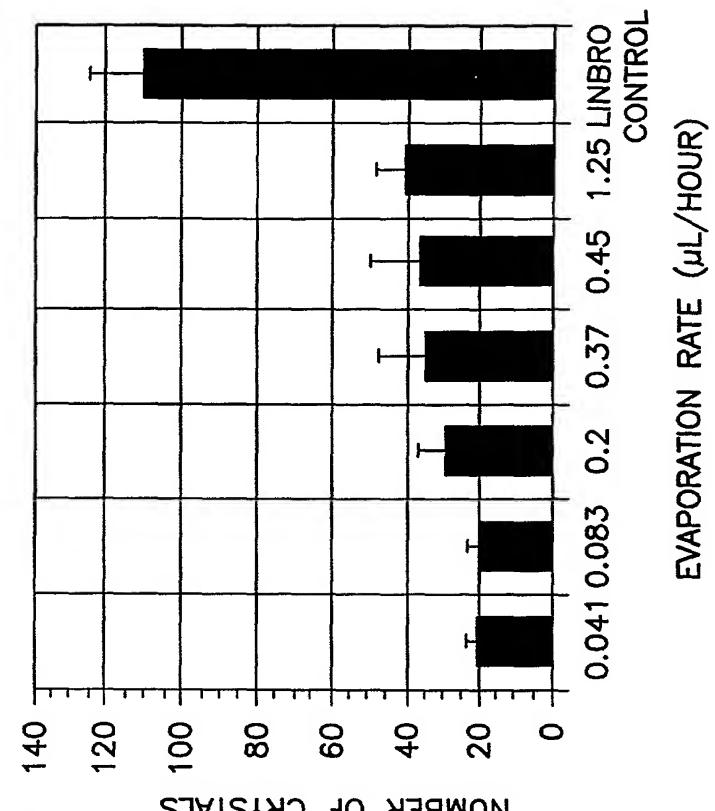


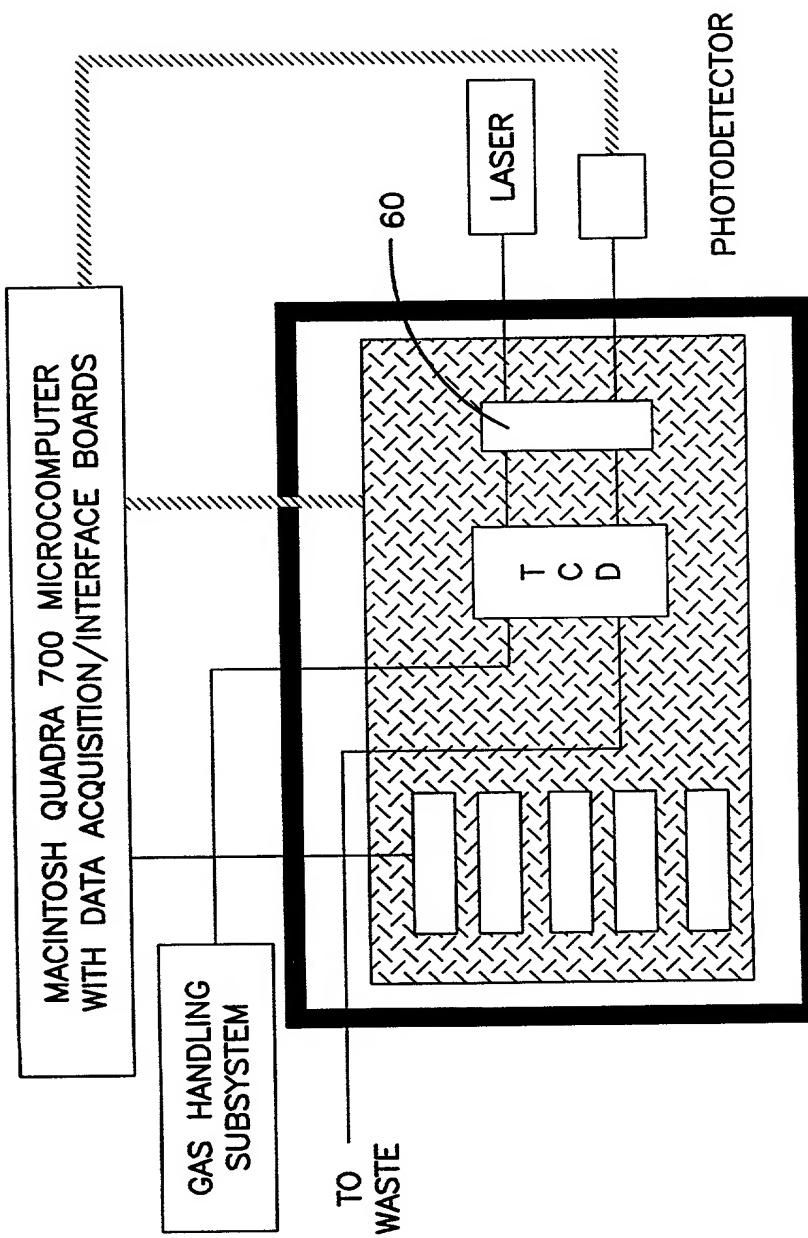
FIG. 10(b)

AVERAGE NUMBER OF SINGLE CRYSTALS
(THAUMATIN)



NOTE: CRYSTAL MEASUREMENTS WERE RECORDED FOR EACH PROFILE
AFTER REACHING IDENTICAL FINAL DROP VOLUMES

FIG. 11



DYNAMICALLY CONTROLLED VAPOR DIFFUSION CONTROL/FOLLOWER SYSTEM.

FIG. 12

DETECTION OF NUCLEATION BY LASER LIGHT SCATTERING AND
RESPONSE BY MODIFYING THE RATE OF INCREASE IN σ .

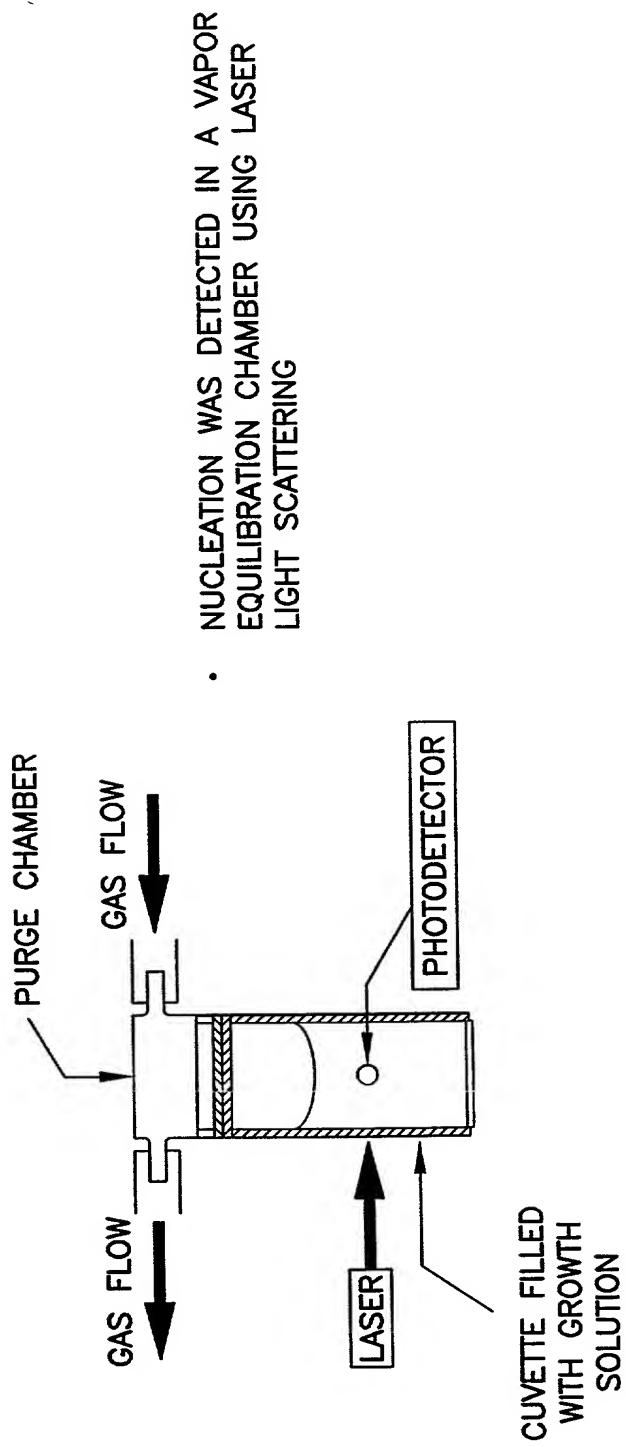
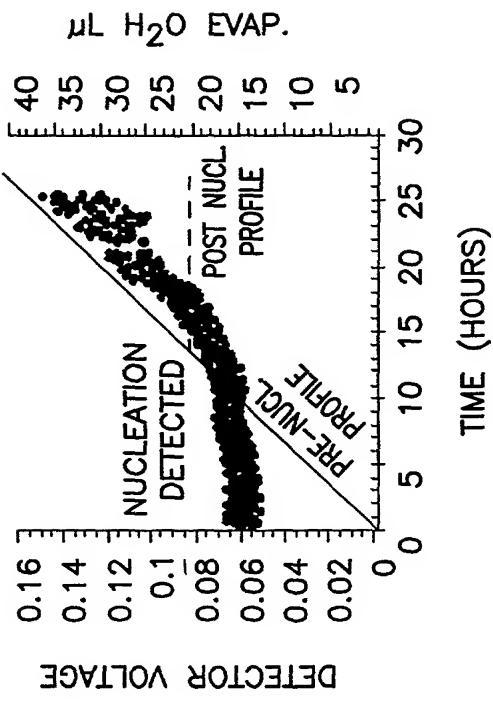


FIG. 13

DETECTION OF NUCLEATION BY LASER LIGHT SCATTERING AND
RESPONSE BY MODIFYING THE RATE OF INCREASE IN σ .



- THE EVAPORATION PROFILE WAS MODIFIED IN RESPONSE TO NUCLEATION DETECTION

FIG. 14

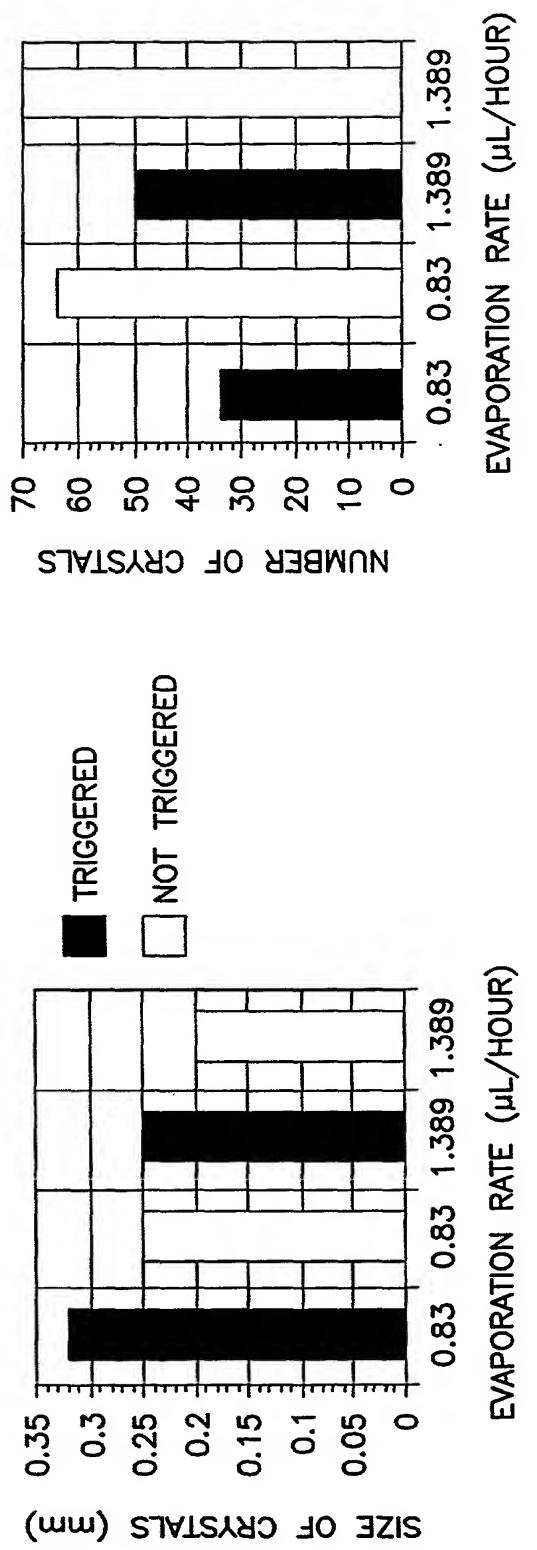


FIG. 15

TEMPERATURE INDUCED CRYSTALLIZATION
BLOCK DIAGRAM FOR DC/PCG

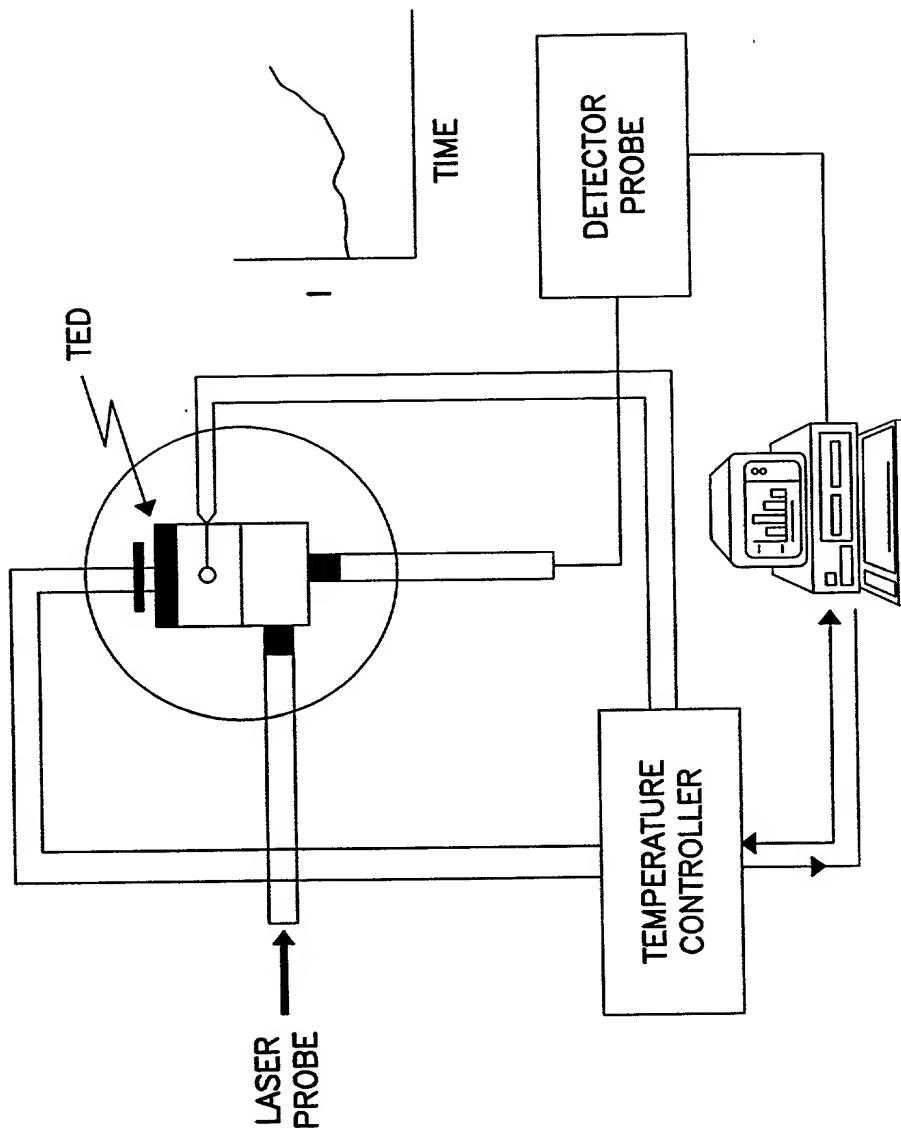


FIG. 16

THERMOELECTRIC TEMPERATURE CONTROL

TOP VIEW OF DCPGC CELL

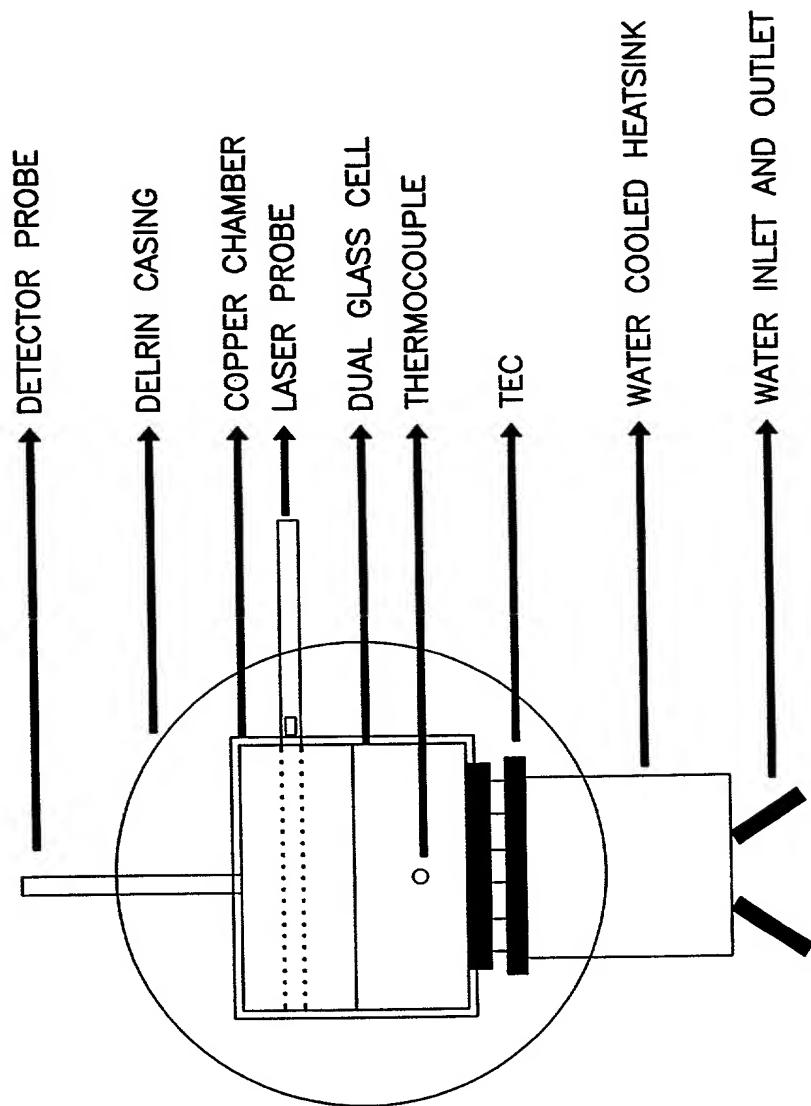


FIG. 17

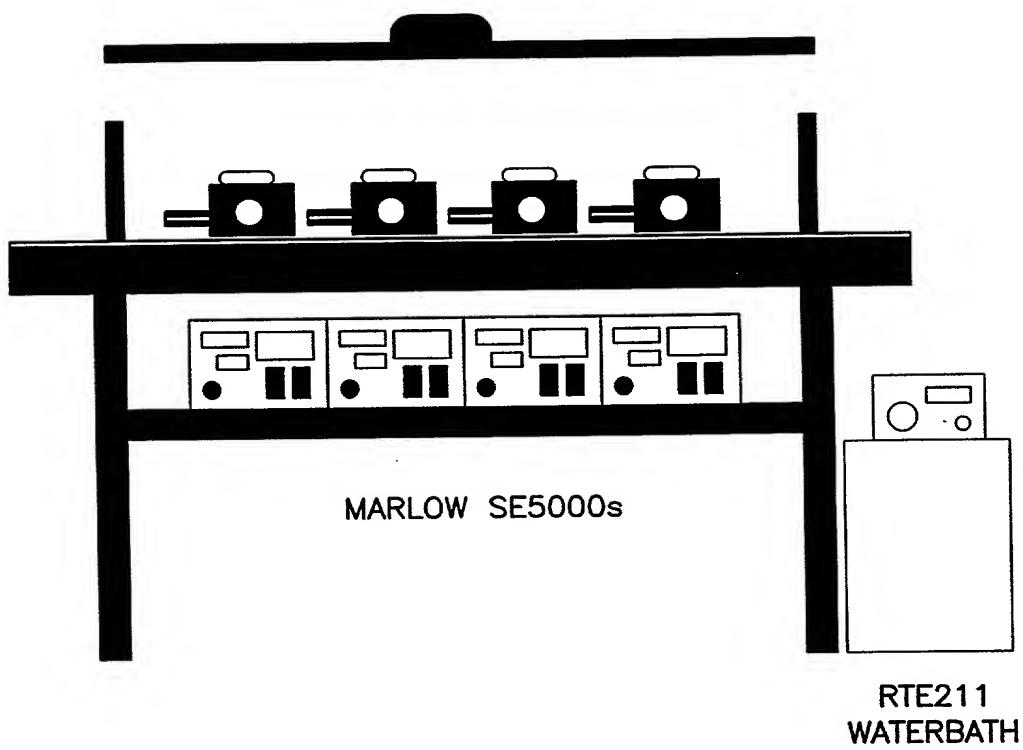
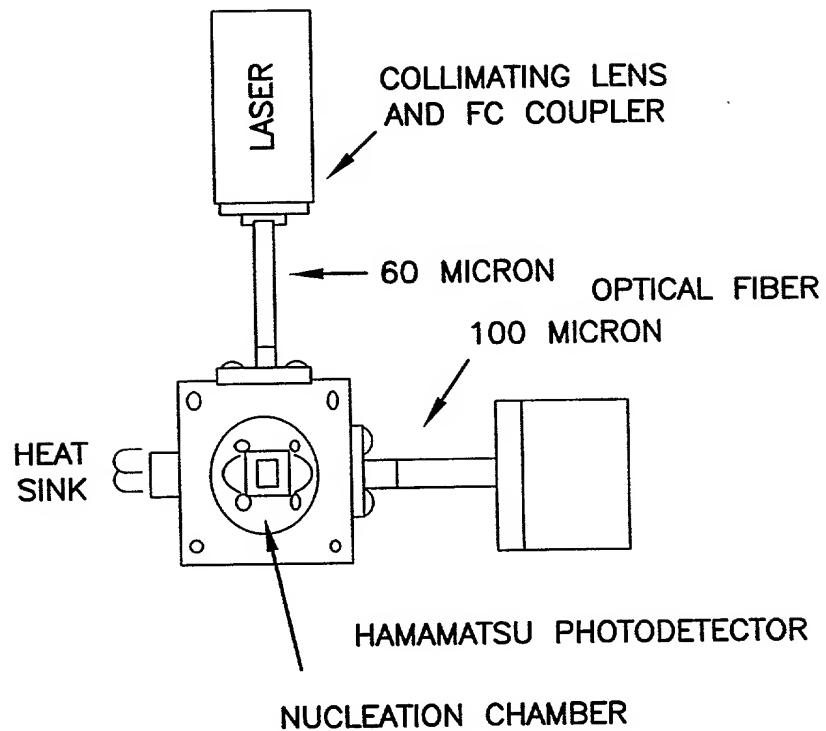
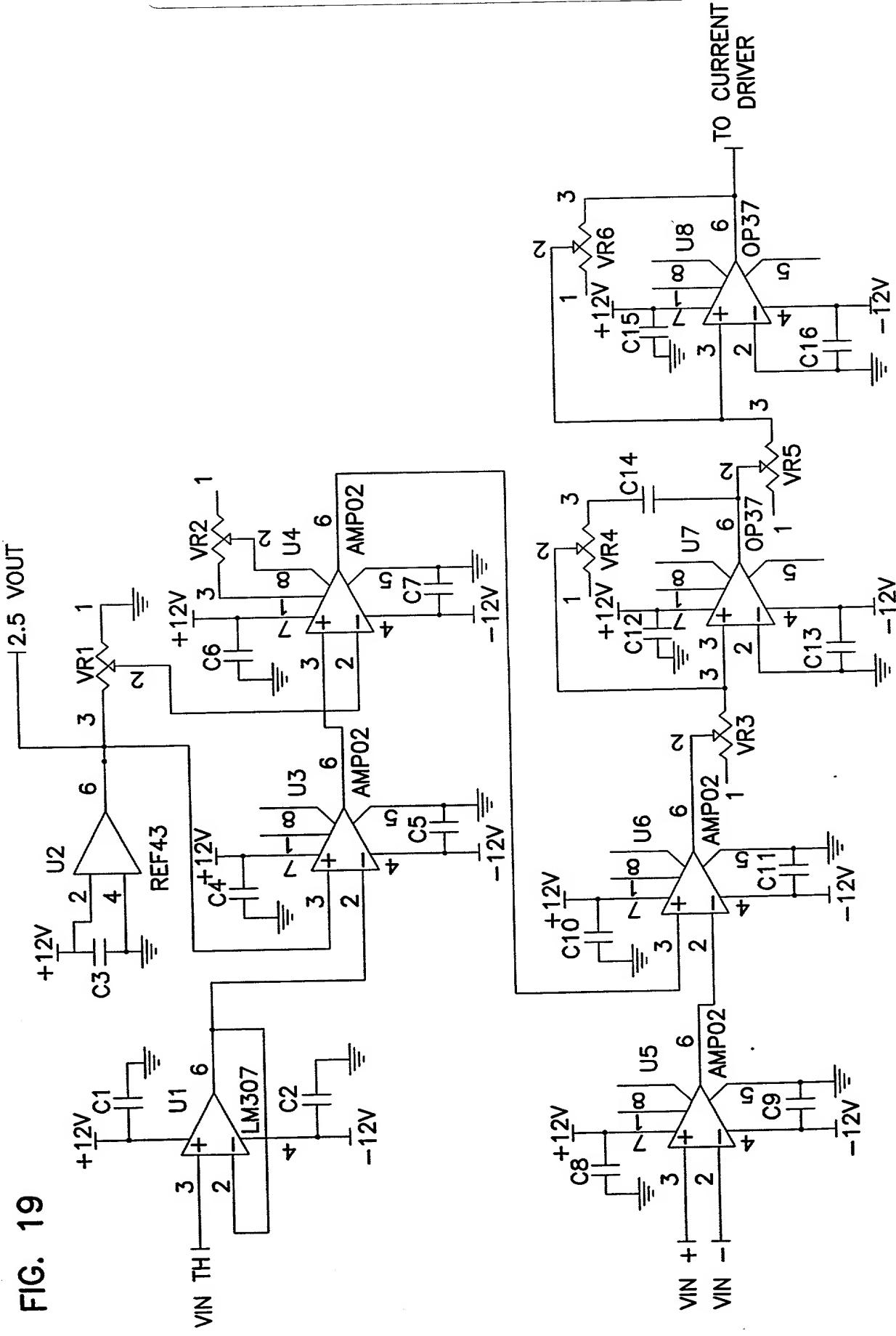


FIG. 18



LASER LIGHT SCATTERING SCHEMATIC WITH NUCLEATION CHAMBER.

FIG. 19. $1.6V$ \rightarrow 2.5 VOL



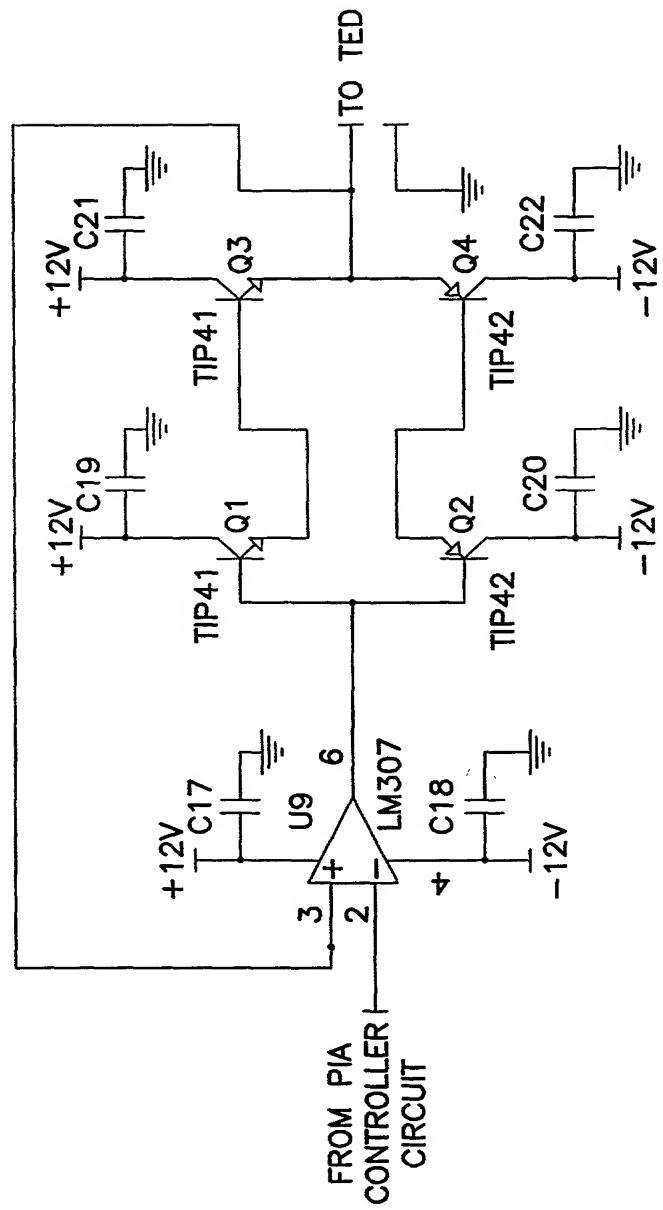


FIG. 19 (CONTINUED)

FIG. 19 (CONTINUED)

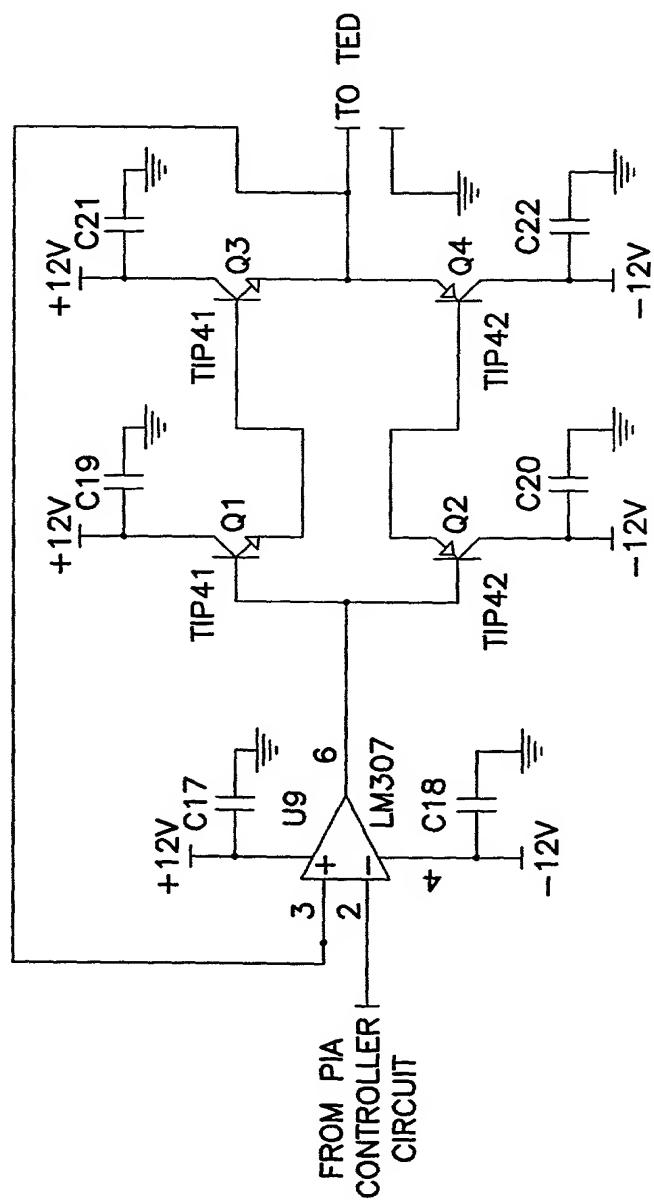


FIG. 20

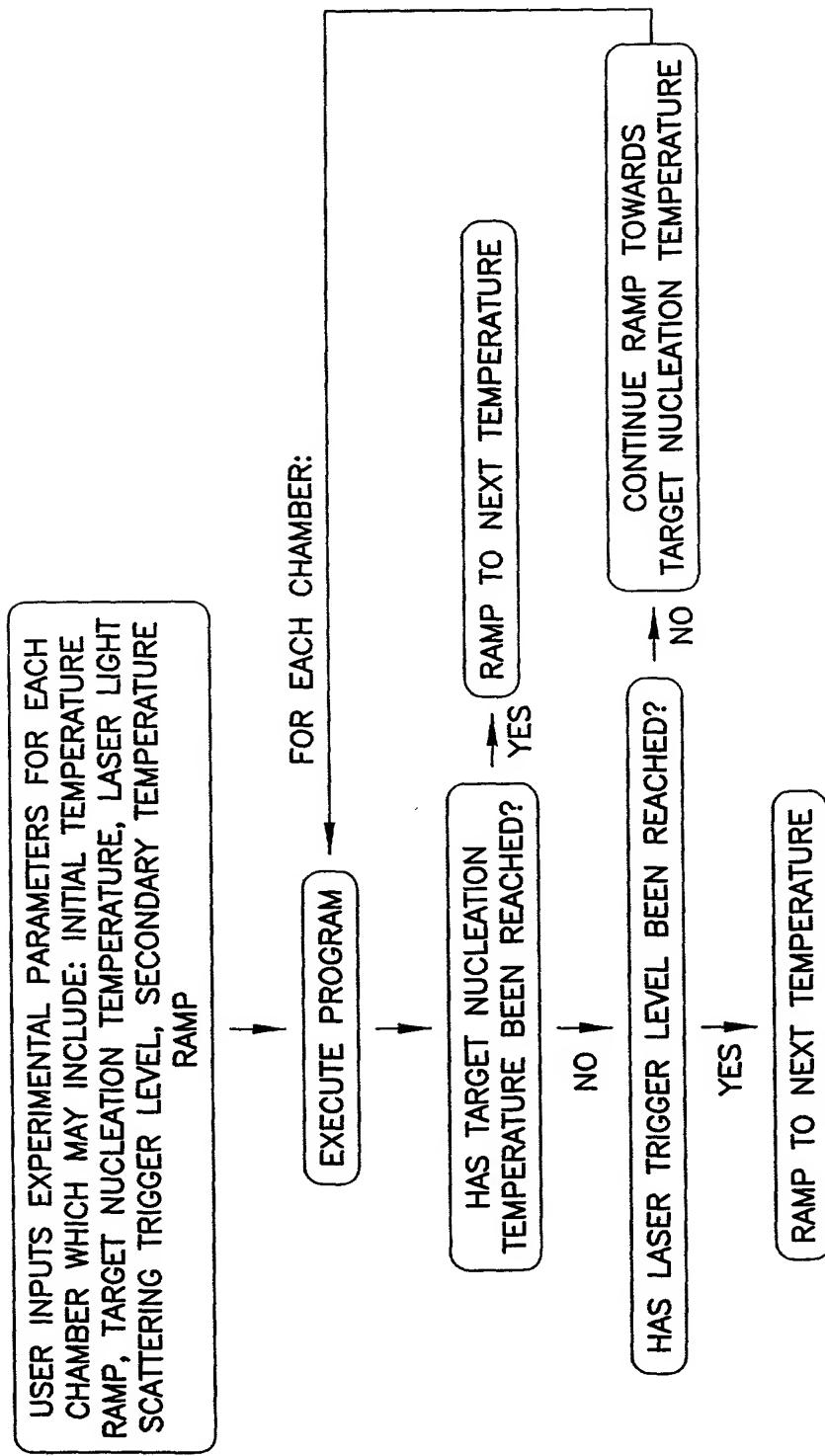


FIG. 21 TEMPERATURE PROFILES

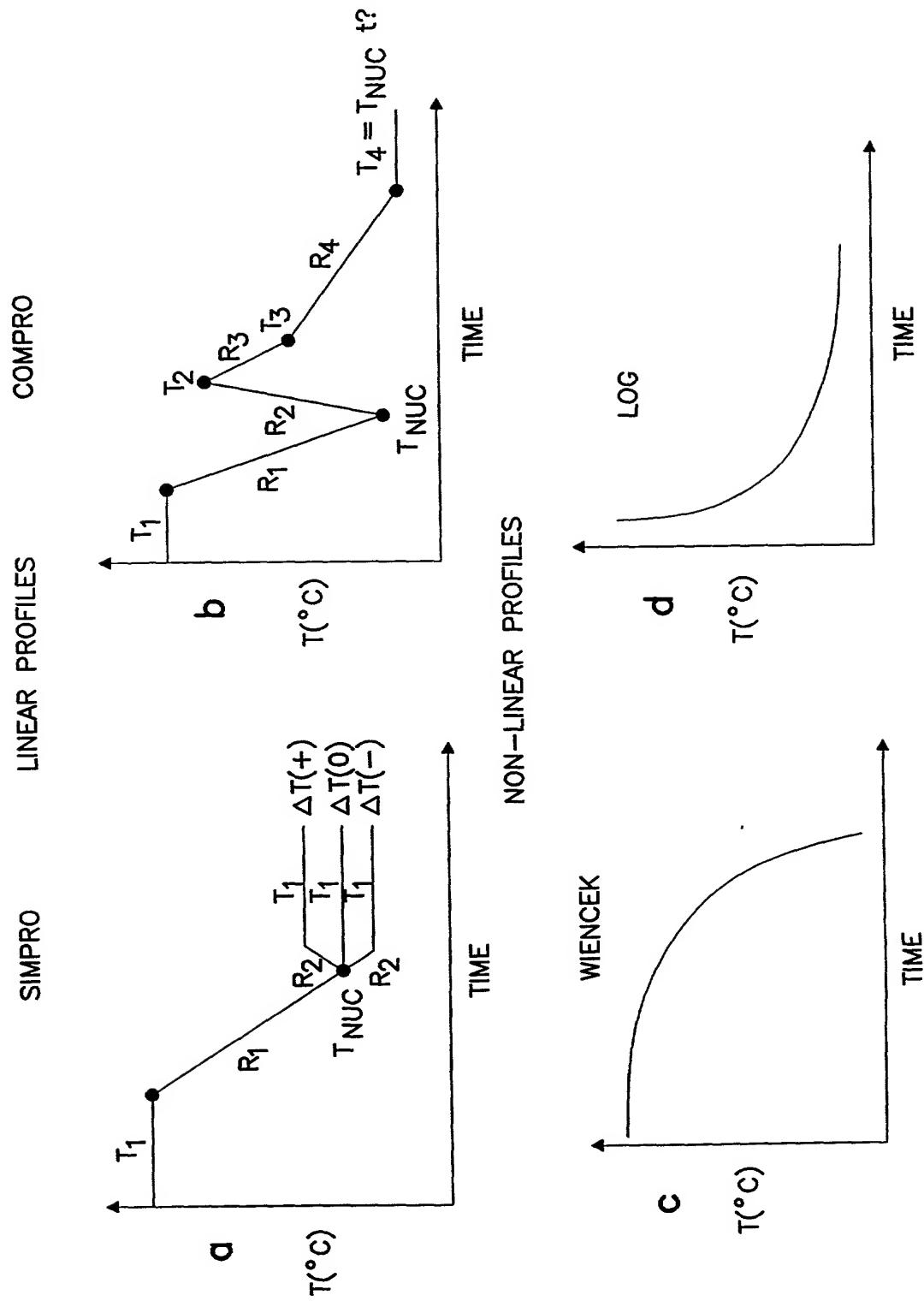
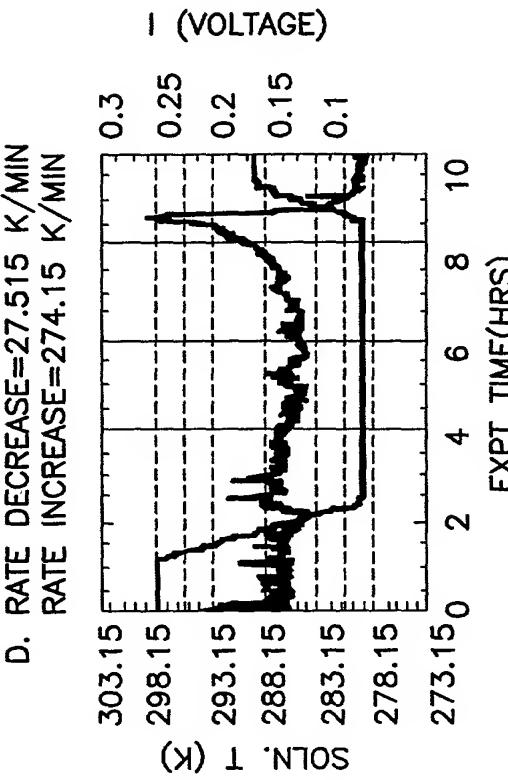
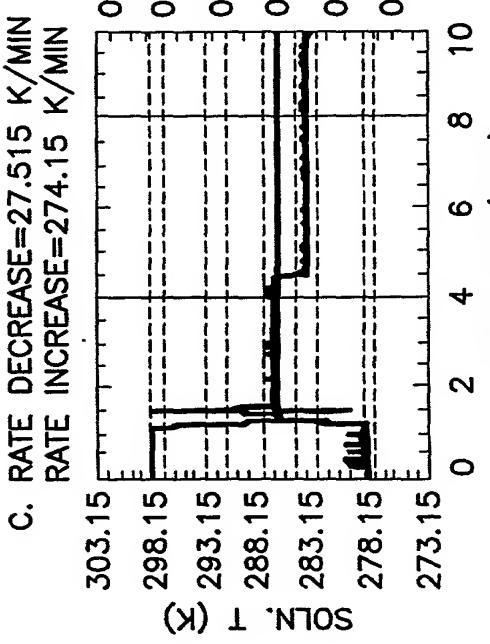
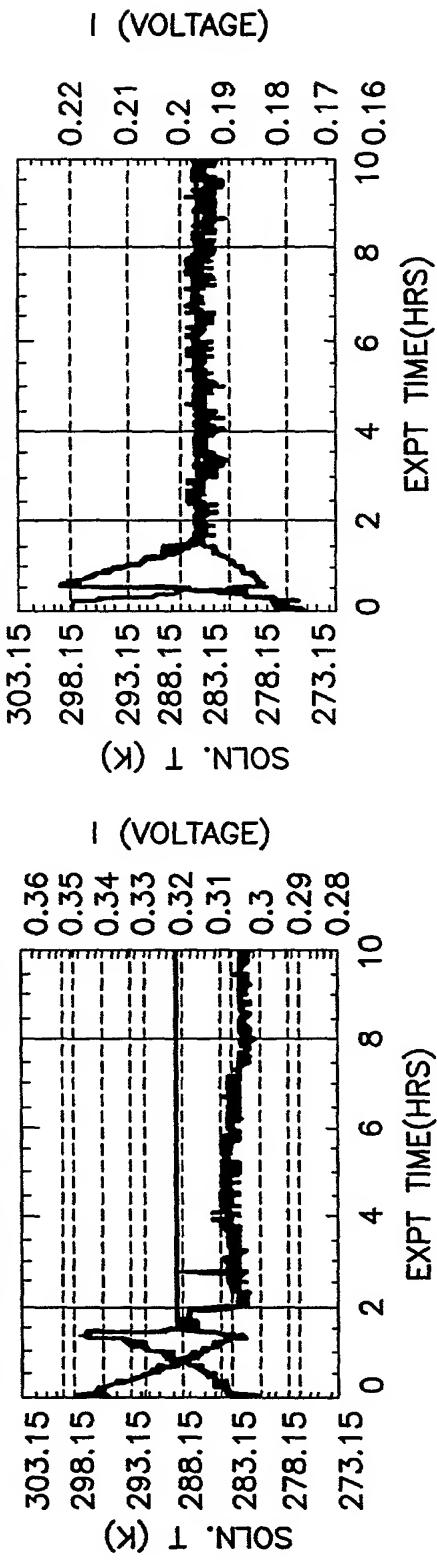


FIG. 22 A. RATE DECREASE=27.515 K/MIN
B. RATE INCREASE=274.15 K/MIN



PLOTS OF VOLTAGE AND TEMPERATURE VERSUS EXPERIMENT TIME
FOR LYSOZYME AGGREGATION.

FIG. 24(a)

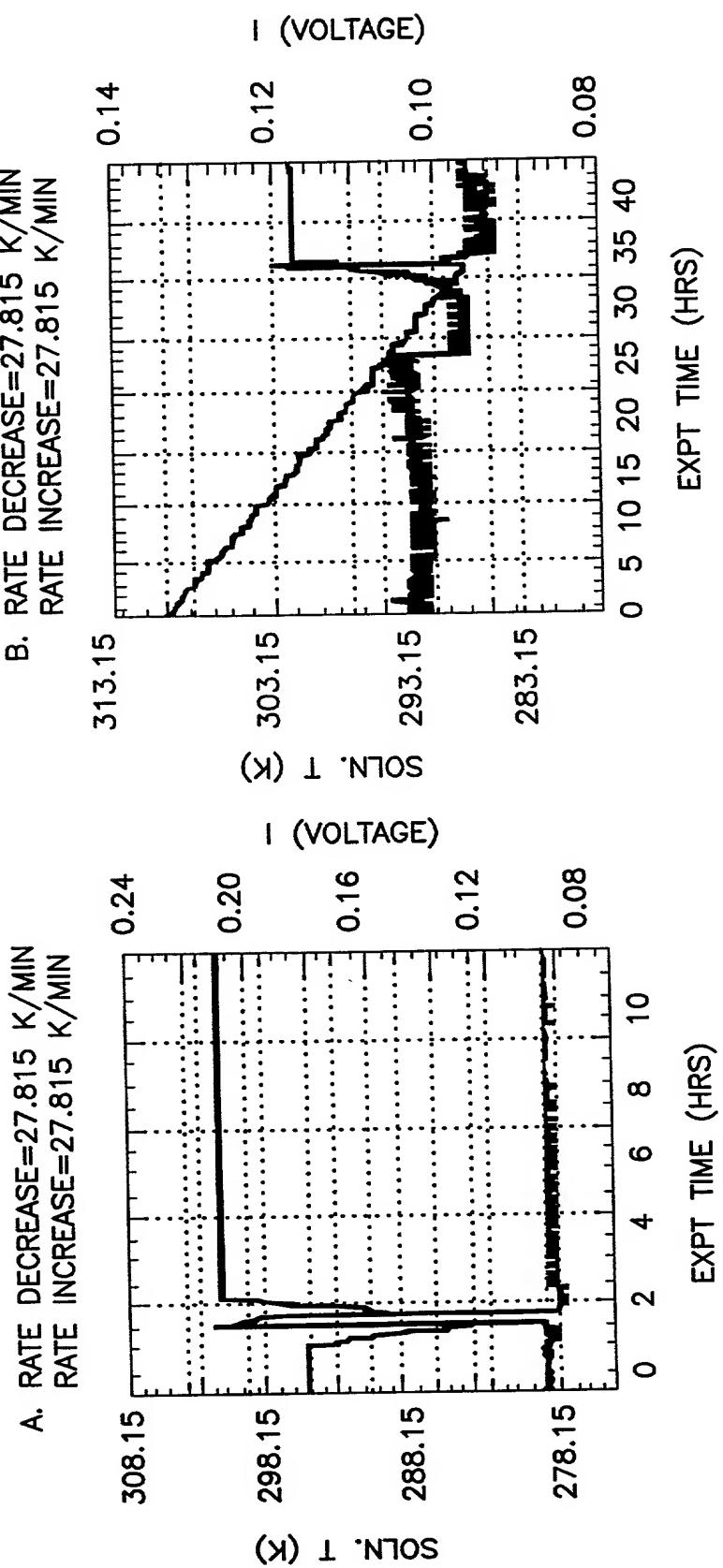


FIG. 24(b)

PLOTS OF VOLTAGE AND SOLUTION TEMPERATURE VERSUS EXPERIMENT TIME FOR BOVINE INSULIN AGGREGATION.

FIG. 24(c)

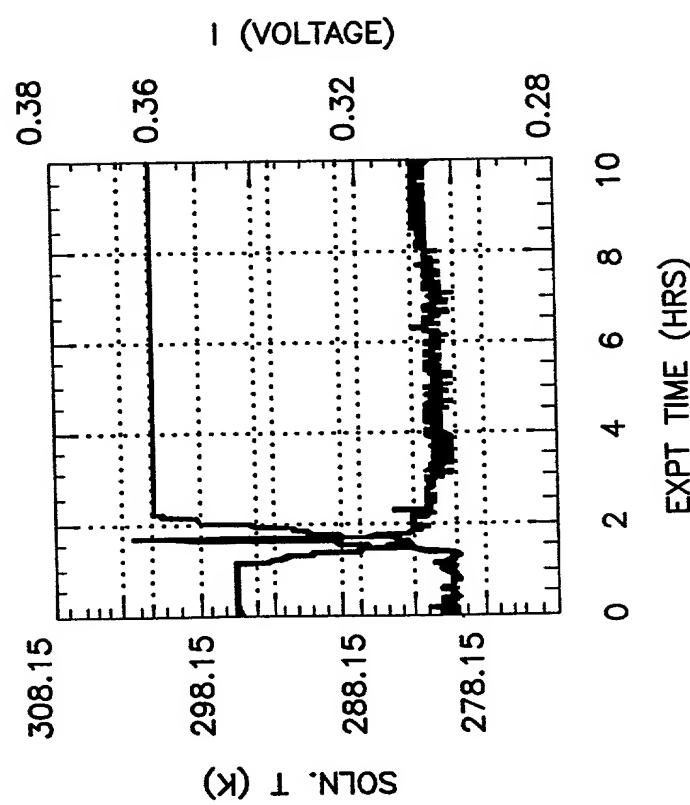
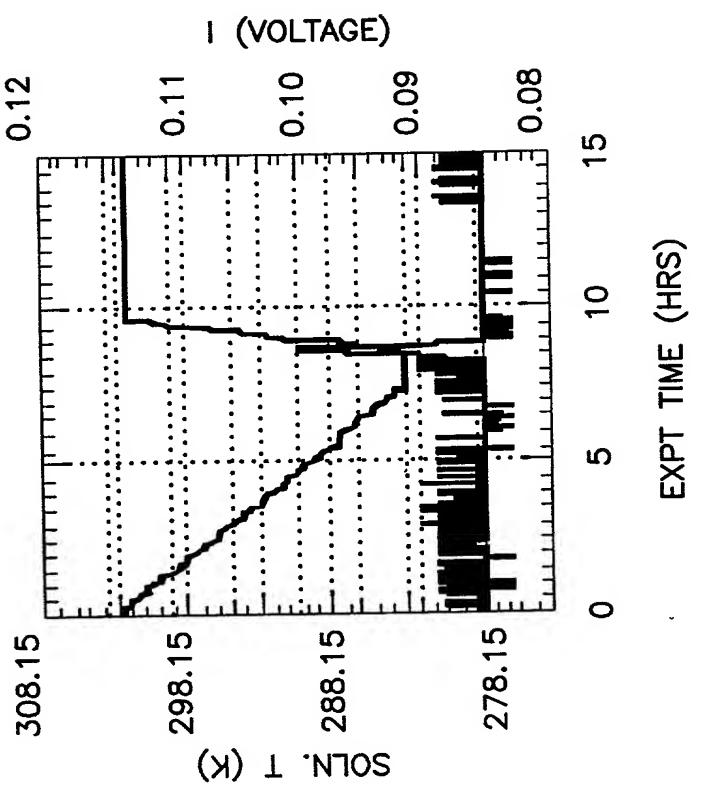


FIG. 24(d)



PLOTS OF VOLTAGE AND TEMPERATURE VERSUS EXPERIMENT
TIME FOR PORCINE INSULIN AGGREGATION.

FIG. 25

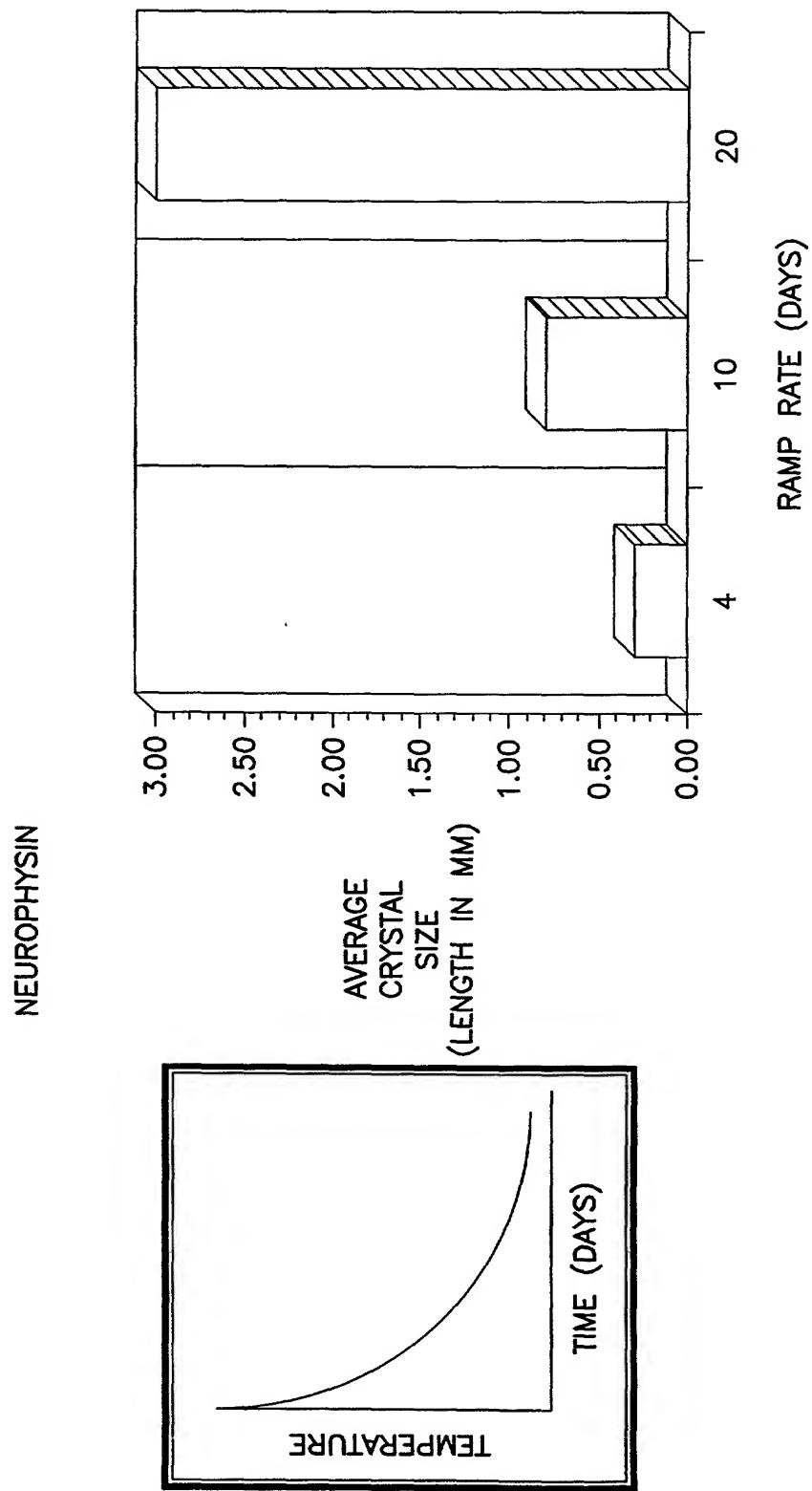


FIG. 26

TEMPERATURE INDUCED CRYSTALLIZATION
CONTROL/FOLLOWER SYSTEM.

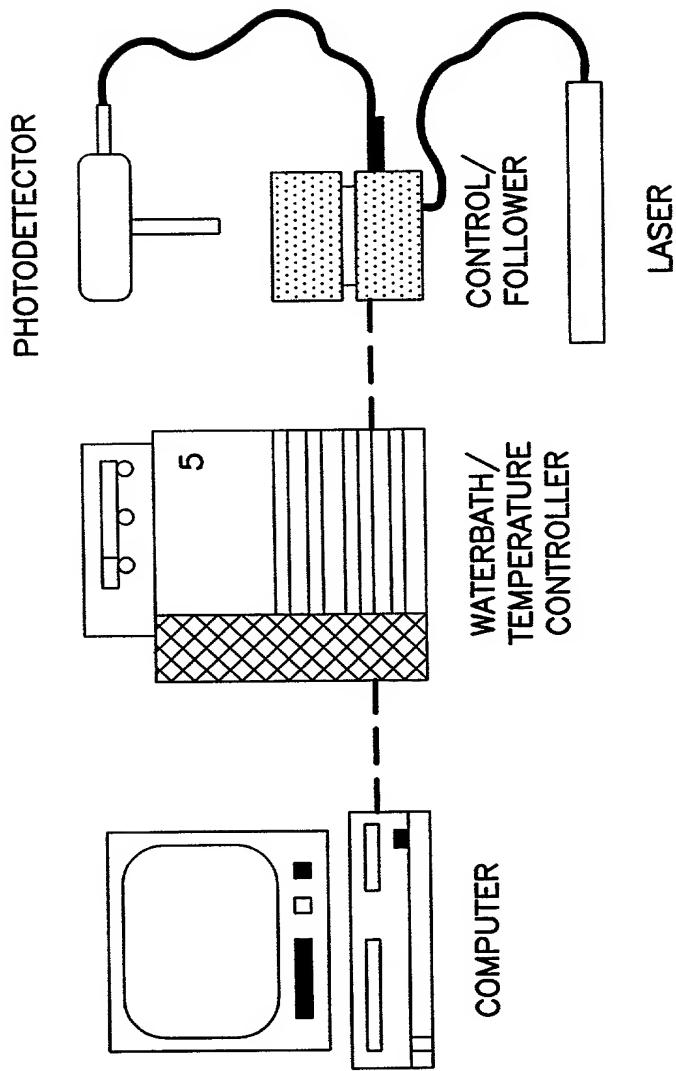
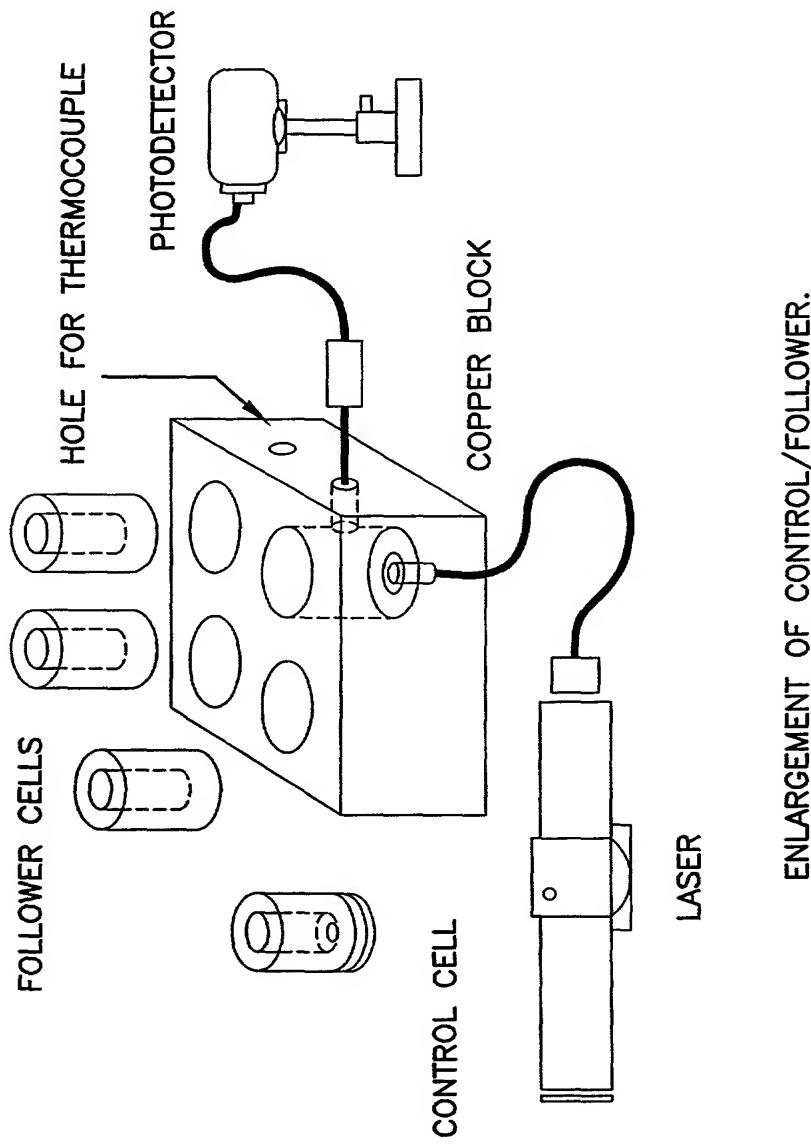


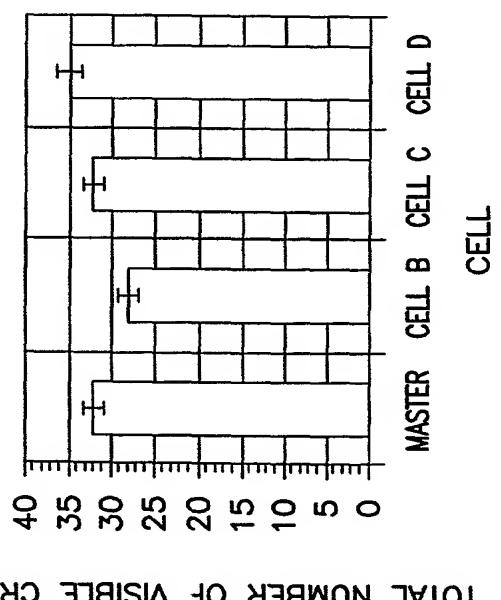
FIG. 27

TEMPERATURE INDUCED CRYSTALLIZATION
CONTROL/FOLLOWER SYSTEM.



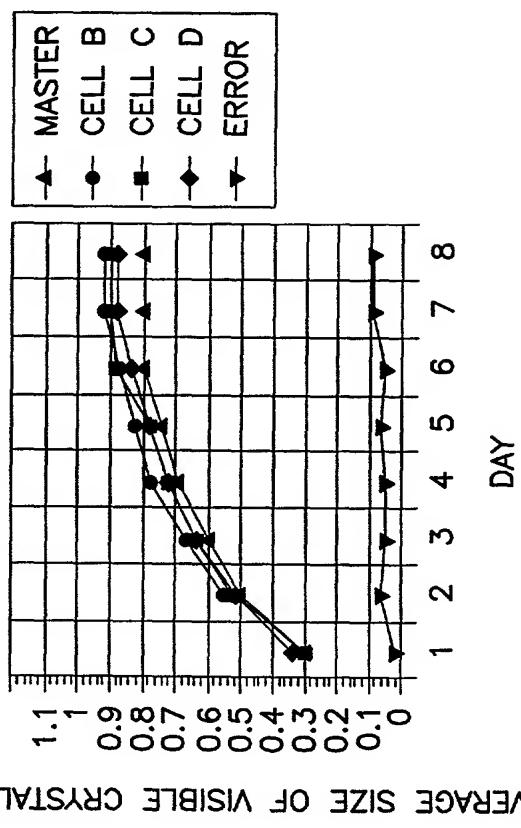
TEMPERATURE CONTROL/FOLLOWER RESULTS

FIG. 28(a)



TOTAL NUMBER OF VISIBLE CRYSTALS

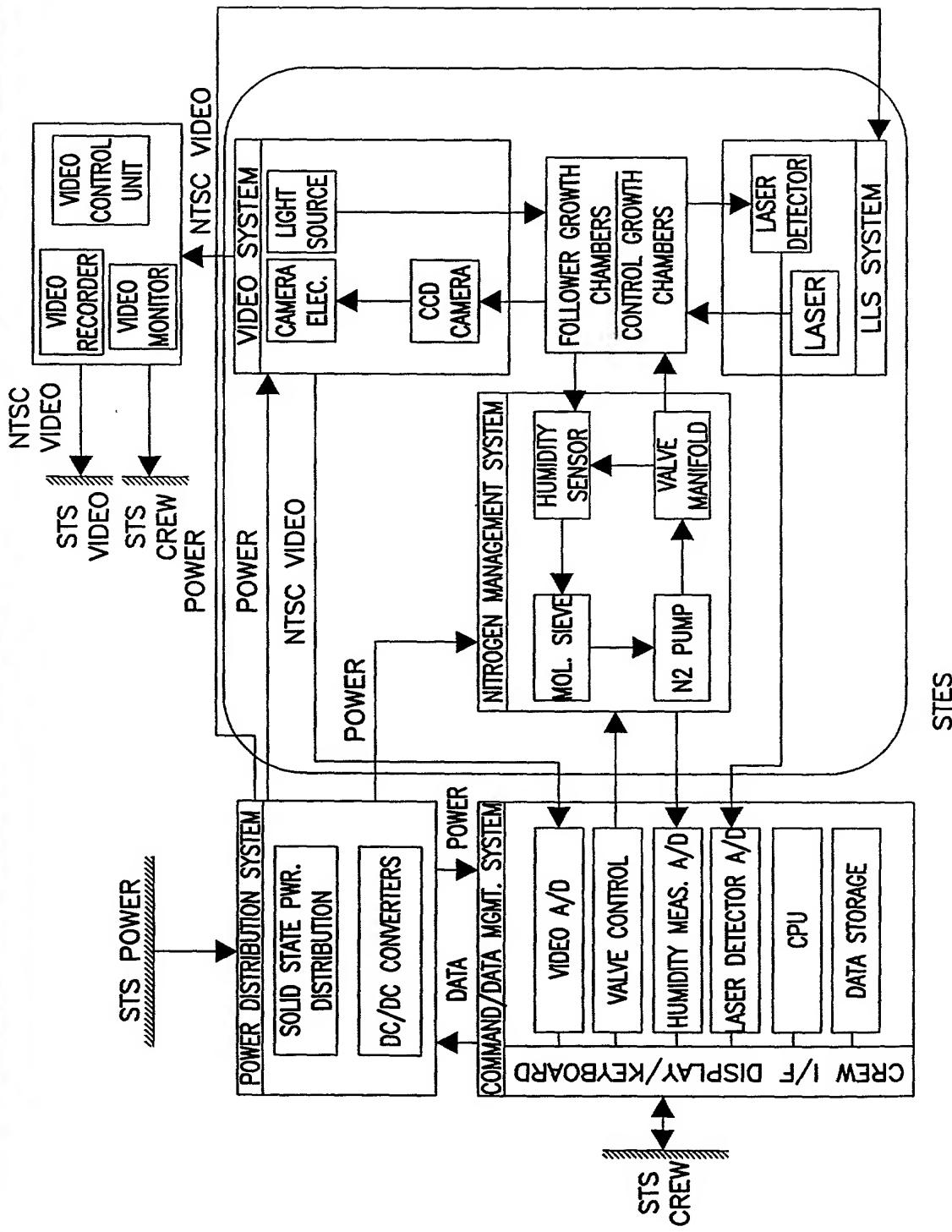
FIG. 28(b)



CONTROL/FOLLOWER EXPERIMENT WITH LYSOZYME PROTEIN. CONCENTRATION IS 60 mg/ml WITH 2.0% NaCl. TEMPERATURE RAMP RATE IS 0.5 °C/min. GRAPH OF POPULATION IN INDIVIDUAL CELLS.

CONTROL/FOLLOWER EXPERIMENT WITH LYSOZYME PROTEIN. CONCENTRATION IS 60 mg/ml WITH 2.0% NaCl. TEMPERATURE RAMP RATE IS 0.5 °C/min. PLOT OF GROWTH OF CRYSTALS VS. TIME.

FIG. 29



DC/PCG-T SYSTEM INTERFACES

FIG. 30

